M-090 MR

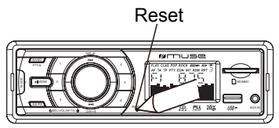
User Manual
CAR RADIO WITH USB & SD

Please read the instruction carefully before operating the unit.

English

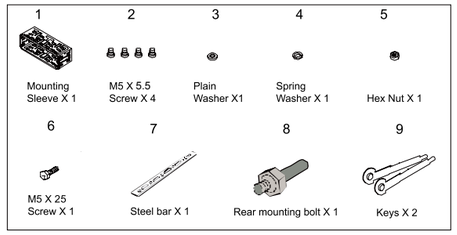
PRECAUTIONS

1. Do not attempt to modify the unit, modifying the unit may cause an accident.
2. Installation or servicing of the unit by persons without training and experience in electronic equipment and automotive accessories may be dangerous and could expose you to the risk of electric shock or other hazards.
3. Stop the vehicle before carrying out any operation that could interfere with your driving.
4. Keep the volume at a level which you could hear sounds from outside the vehicle.
5. Do not work in extremely high or low temperature. Be sure the temperature inside the vehicle is between +60°C and -10°C before turning on your unit.
6. When replacing the fuse(s), the replacement must be of the same amperage as shown on the fuse holder.
7. Do not block vents or radiator panels. Blocking them will cause heat to build up inside and may result in fire.
8. Using this unit without running the engine can result in battery drainage.
9. Use only in cars with a 12 volt negative ground.
10. After completing the installation or replacing the car battery you need to RESET the unit before using it. Remove the front panel and press **RESET** button on the base with pointed object (such as ball-point pen) to reset the unit to its initial settings.

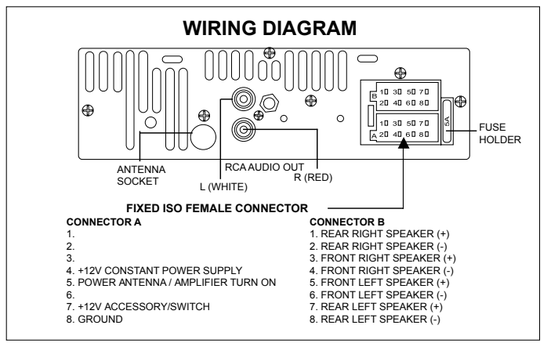


UNPACK YOUR UNIT

When you unpack your new car radio, make sure that you have removed all the accessories and information papers:
Main unit
User manual
Accessories:



CONNECTION

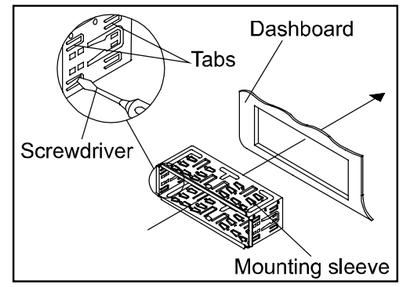


Caution!
- Make sure to connect the color coded leads according to the diagram. Incorrect connections may cause the unit to malfunction or damage the vehicle's electrical system.
- Make sure to connect the speaker (-) leads to the speaker (-) terminal. Never connect the left and right channel speaker cables each other or to the vehicle body.
- Make sure all the connections are completely correct before turning on your unit.
- Before wiring, disconnect the cable from the negative battery terminal.

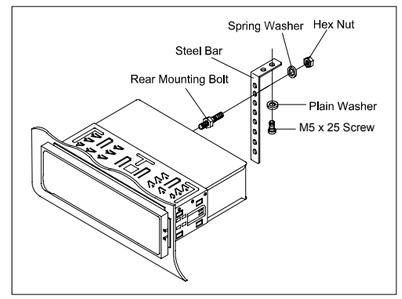
Do not connect the ignition wire (red) and the battery wire (yellow), it may cause a short circuit, even result in fire.

INSTALL AND REMOVE THE UNIT

Install the unit
- Method 1: DIN Front - Mount



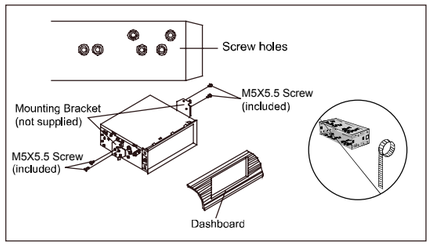
1. Insert the mounting sleeve to the car. Bend the claws outward for a tight fit, if necessary.



2. Combine mounting blot, steel bar, spring washer and Hex nut. Then combine the unit and dashboard with M5x 25 screw and plain washer.

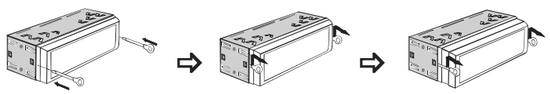
- Method 2 DIN Rear-mount (For Japanese car)

1. Select a position where the screw holes of the mounting bracket supplied with the car and the screw holes of the main unit become aligned (are fitted).

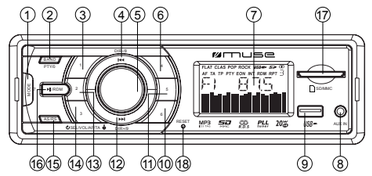


2. Tighten the screws. And then fasten them to the car.

Detach the Unit
Insert the keys supplied on the both sides of the unit (shown as illustrated) until they click. Pulling the keys and makes them to remove the unit from the dashboard.



LOCATION OF CONTROLS



1. **7/MODE** button
2. **0/BAND/PTY** button
3. **1** numeric button
4. **8/ ⏮ /DIR-** button (Skip backward /Directory down)
5. **⏻/SEL/VOL/ AF/TA** knob (Power/ Select setting/Volume)
6. **4** numeric button
7. LCD display
8. AUX IN jack
9. USB port
10. **6** numeric button
11. **5** numeric button
12. **9/ ⏭ /DIR+** button (Skip forward /Directory up)
13. **2** numeric button
14. **3** numeric button
15. **AS/PS** button
16. **⏯ /RDM** button (Play/ Pause/Random)
17. SD/MMC card slot
18. **RESET** button

BASIC OPERATIONS

Turn on/off the unit
Press ⏻ button (5) to turn on the unit. Press and hold this button again to turn off the unit.

To display and adjust the current time
In standby mode, the current time will be displayed automatically.
Turn on the unit, press and hold **MODE** button (1) until clock time appears. Long press **MODE** button (1) again ,the hour digits will flash, set the HR. hour with ⏮ / ⏭ button (4/12).Then shortly press **MODE** button (1), the minute digits will flash, set the MIN. minutes with ⏮ / ⏭ button (4/12).
Note: It will return to normal display mode if no key is pressed within 5 seconds.

Mode selection
Repeatedly press **MODE** (1) button to select different sourcing mode: Radio→ USB →SD/MMC →AUX.

Reset the unit
Operating the unit for the first time or after replacing the car battery, you must reset the unit. To set the unit to initial status, press **RESET** button (18) with a pointed object. When some errors occur in display, you can also reset the unit, but it will erase the clock setting and some memorized functions.

SOUND FEATURES

Volume:
To increase or decrease the sound level, rotate **SEL/VOL** knob (5) clockwise or counter-clockwise.

Sound Settings
Repeatedly press **SEL/ VOL** knob (5) to select the desired mode in the following order: "BAS" (Bass) -> "TRE" (Treble) -> "BAL" (Balance) -> "FAD" (Fader) -> " LOUD"(LOUD ON/OFF) -> "LOC"(LOC ON/OFF) -> "AF" (Alternative frequency) -> "TA" (Traffic announcement) -> "REG" (REG ON/OFF) ->"EON" (EON ON/ OFF) -> "VOL" (Volume). After selecting the desired mode, you can adjust the current level by rotating **SEL/ VOL** knob (5).
Note:
- The unit will return to the previous mode if no adjusting happens within 5 seconds.
- Refer to radio section for LOC, AF, TA ,REG and EON.

Switching Loudness On/off
Repeatedly press **SEL/VOL** knob (5) until "LOUD" shows on display, rotate **SEL/VOL** knob (5) to select "LOUD ON" mode to activate LOUDNESS function. By this function, you can increase the low frequency, which can improve sound sensitivity. Repeatedly press this button again ,then rotate **SEL/VOL** knob (5) to select "LOUD OFF" mode to cancel LOUDNESS function.

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LISTENING TO THE RADIO

Band selection
In tuner mode, repeatedly press **BAND** button (2) to select bands: FM1-> FM2 -> FM3.

Station search
- Manual Tuning
Press and hold button ⏮ or ⏭ (4/12) until “MANUAL” shows on display, then press button ⏮ or ⏭ (4/12) continuously to select a station downward or upward. Press and hold button ⏮ or ⏭ (4/12) to tune to a station with a faster speed.

Note: The unit will return to the “AUTO” scanning mode if no adjusting happens within 5 seconds.

- Automatic Tuning
Press ⏮ or ⏭ (4/12) once, the radio automatically searches a station downward or upward respectively and plays when it finds a station. Press ⏮ or ⏭ (4/12) again to stop scanning.

Scanning and memorizing stations
Automatic memory storing
In tuner mode, press and hold **AS/PS** (15) button for 3 seconds to start automatic scanning and station store on numeric buttons **1-6**.

- Preset scan
Press **AS/PS** (15) button shortly to start preset stations scan. All preset stations are scrolled during few seconds. To remain on a station, press again the **AS/PS** (15) button.

- Preset buttons **1- 6** (3/13/14/6/11/10)
1. Tune to a station with ⏮ or ⏭ (4/12).
2. Press and hold one of the **1- 6** preset buttons for 2 seconds until LCD shows the corresponding number, which indicates that station is stored on this number.
3. In radio mode, press **1- 6** preset buttons to listen to stored stations.
Note: The unit can be stored up to 6 stations for each band.

-- RDS (Radio Data System) Operations --
This unit has a built-in RDS decoder system that supports broadcast stations transmitting RDS data. This system can display the name of the broadcast station being received and can automatically switch to the broadcast station with the best reception as you travel on long distances (AF switching). A traffic announcement broadcast from a RDS station, no matter what mode you are. Additionally, if EON information is received, enables automatic switching of other preset stations on the same network and interruption of the station being received with traffic information. This function is not available in some areas.

Alternative frequency (AF)
The AF function switches to a different frequency on the same network in order to maintain optimum reception. In FM mode, repeatedly press **SEL/VOL** button (5) until “AF” appears in the display, rotate **SEL/VOL** knob (5) to turn “ON” the function ,certain program will be automatically searched and received. If the reception of the current broadcast station deteriorates, “AF” icon appears in the display and the radio searches for the same program on another frequency. Repeatedly press **SEL/VOL** button (5) until “AF” appears in the display, rotate **SEL/VOL** knob (5) to turn “OFF” the function.
When reception is bad, the “**AF**” icon will blink.

Traffic alarm (TA)
In the **TA** standby mode, when a traffic announcement broadcast starts, the traffic announcement broadcast is received as top priority regardless of the function mode so you can listen to it. Traffic program (TP) automatic tuning is also possible.
Repeatedly press **SEL/VOL** button (5) until “TA” appears in the display, rotate **SEL/VOL** knob (5) to turn “ON” the function , when LCD shows “TA” icon, traffic program will be automatically searched and saved, when LCD shows “TP” icon, this means that the RDS broadcast station being received has traffic announcement programs.
If you select TA fuction while a traffic announcement broadcast is being received, the traffic announcement broadcast reception is cancelled and the unit goes into the TA standby mode.
If a TP station is not received, the unit continues searching.
Repeatedly press **SEL/VOL** button (5) until “TA” appears in the display, rotate **SEL/VOL** knob (5) to turn “OFF” the function , “TA” icon goes off.

ALARM
“ALARM” will be displayed when an emergency broadcasting is received; meanwhile sound output level will be adjusted to the preset output level automatically when the volume control is set at minimum.

Program type selection (PTY)
Long press **PTY** button (2) to select “PTY” function .When **PTY** is selected, the radio starts to search corresponding PTY information, and stops when the corresponding PTY information is detected.
If corresponding PTY information does not exist any more, PTY is automatically stopped to normal mode.

Using **1-6** numeric button to Select Program
1) Long press **PTY** button (2) once. When “PTY” appears on display, press number button **1-6** repeatedly to select below programs:
Button 1: NEWS/ AFFAIRS / INFO
Button 2: SPORT / EDUCATE / DRAMA
Button 3: CULTURE / SCIENCE / VARIED
Button 4: WEATHER / FINANCE / CHILDREN
Button 5: SOCIAL / RELIGION / PHONE IN
Button 6: TRAVEL / LEISURE / DOCUMENT

2) Long press **PTY** button (2) twice, press number button **1-6** repeatedly to select below programs:
Button 1: POP M / ROCK M
Button 2: EASY M / LIGHT M
Button 3: CLASSICS / OTHER M
Button 4: JAZZ / COUNTRY
Button 5: NATION M / OLDIES
Button 6: FOLK M

Then the unit will start searching for the corresponding program automatically. Long press **PTY** button (2) for the third time to exit the PTY mode.

LOC ON/OFF
Repeatedly press **SEL/VOL** knob (5) to select “LOC” mode. When ON, the strong signal local stations can be received, when OFF, the week signal out-of-town stations may be received.

EON (Enhances Other Network Information)
Repeatedly press **SEL/VOL** knob (5) until “EON” appears in the display, rotate **SEL/VOL** knob (5) to switch between “EON ON” and “EON OFF” mode. When receive the EON information, the EON indication is on. With EON facility, it offers the ability for local stations to “break into” a national station’s broadcast for the duration of a Traffic Announcement.

Region ON / OFF (REG)
Repeatedly press **SEL/VOL** button (5) until “REG” appears in the display, rotate **SEL/VOL** knob (5) to switch between “REG ON” and “REG OFF” mode.
REG ON: should be selected to listen to the REGIONAL broadcast of the current station, even if there is a national broadcast of this station.
REG OFF: should be selected to listen to the national broadcast of this station.

LISTENING TO USB DEVICE OR SD/SDHC/MMC CARD

To insert a USB device (not included)
Connect your USB device to the USB port (9), the set will switch to “USB” mode automatically. If USB has already been inserted, press **MODE** button (1) to switch to USB mode.

To insert a SD, SDHC or MMC card (not included)
Insert your SD, SDHC or MMC card in the card slot (17), the set will switch to “SD-MMC” mode automatically. If a card has already been inserted, press **MODE** button (1) to switch to card mode.

Basic player functions
Play/Pause: press ⏯ (16) to suspend momentarily the track playback. Press (16) again to resume playback.
Skip/Fast search: press button ⏭ (12) to skip forward to next track and ⏮ (4) to skip backward to previous track.
Random playback: Press **RDM** button (16), all tracks will be played randomly. Press it again to cancel this function.
Select A Directory: press and hold **DIR+** button (12) or **DIR-** button (4) to select directory upward or downward. If the MP3 contents does not have any directory, **DIR +** (12) and **DIR-** (4) buttons are inactive.

Searching a track in MP3-USB/SD
1. Press **AS/PS** button (15) once,
2. Use the numeric keys to enter the track number,
3. Press **SEL/VOL** knob (5) to start playing.

Exit USB/SD card mode
To exit USB or card mode, disconnect your USB device or your card from the unit, the set will switch to tuner mode automatically.

Note
* There are many USB devices or SD/SDHC/MMC card in the market. We cannot guarantee to support all different models. Please try another USB device or SD/SDHC/MMC card if yours is not supported.
* The unit might not support all the multimedia files stored in SD/SDHC/MMC card or USB because it includes some special playback procedure which might not be compatible with the procedure of this unit.

LISTENING TO AUXILIARY SOURCE

1. Connect your auxiliary source (e.g. MP3 player) to the AUX IN jack (8)
2. Press and hold ⏻ (5) button to turn the unit on.
3. Press **MODE** (1) to select AUX mode.
4. Start playback from your auxiliary source.
5. Adjust the volume (5) to desired level.
6. To stop, disconnect your auxiliary source from the Aux in jack (8), press **MODE** button (1) to select other source.

MAINTENANCE

Precaution
- Clean the front panel with a soft cloth, or damp chamois leather. Never use solvents.
• Do not expose to rain or water;
• Do not drop or apply shock.
- Make sure that you keep your set away from water and high temperatures.
- The use of apparatus in moderate climates.
- Do not be exposed to dripping or splashing, and that no object filled with liquids, such as vases, shall be placed on the apparatus.
- No naked flame sources such as lighted candles should be placed on the apparatus.

Replacing the Fuse
Make sure the amperage matches the specified value when replacing the fuses. If the fuse is blown, check the power connection and replace with a new one. If the same problem occurs, it could be caused by an internal malfunction. In such cases, please consult the nearest service dealer.

TROUBLE SHOOTING GUIDE

SYMPTOM	CAUSE	SOLUTION
No power.	The car ignition switch is not on.	If the power supply is connected to the car accessory circuits, but the engine is not moving, switch the ignition key to “ACC”.
	The fuse is blown.	Replace the fuse.
No sound.	Volume is in minimum.	Adjust volume to a desired level.
	Wiring is not properly connected.	Check wiring connection.
The operation keys do not work.	The built-in microcomputer is not operating properly.	Press the RESET button. Front panel is not properly fixed into its place.
The radio does not work. The automatic radio station selection does not work.	The antenna cable is not connected.	Insert the antenna cable firmly.
	The signals are too weak.	Select a station manually.

SPECIFICATIONS

General

Power Requirement	12V DC (11-16V allowable)
Load Impedance	4 Ω
Max. Power Output	20W x4
Tone Controls	±10 dB Bass at 100 Hz Treble at 10 kHz
Dimensions	Approx. 178 x 97 x50 mm (d/w/h)
Weight	Approx. 0.7 kg

FM radio

Tuning Range	87.5-108 (MHz)
IF Range	10.7 MHz
Usable Sensitivity (-30dB)	15 dBuV
Signal-to-noise Ratio	50 dB
Stereo Separation	25 dB

USB/SD MP3 player

Signal-to-noise Ratio	60 dB
Separation	40 dB
Distortion	<=1%
Frequency Response	40-20000Hz

Note:
Due to continuous product improvement, specifications and design are subject to change without prior notice.

CAUTION! The unit conforms to the international safety specifications and to guide lines of the European community and also complies with current standards concerning electrical safety and electromagnetic compatibility EMC.

WARNINGS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATTENTION: To reduce the risk of electric shock, do not remove the cover. There are no user serviceable parts inside the unit. Refer all servicing to qualified personnel.

The lightening flash with arrowhead symbol within the triangle is a warning sign alerting the user of “dangerous voltage” inside the unit.

The exclamation point within the triangle is a warning sign alerting the user of important instructions accompanying the product.

WARNING - To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

If at any time in the future you should need to dispose of this product please note that Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice. (Waste Electrical and Electronic Equipment Directive)

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